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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|---------------------|----------------------|-------------------------|------------------|
| 10/754,501 | 01/12/2004 | Yun-Woo Lee | SEC.1091 | 8300 |
| 20987 75 | 90 08/19/2005 | | EXAMINER | |
| VOLENTINE FRANCOS, & WHITT PLLC ONE FREEDOM SQUARE | | | NGUYEN, LONG T | |
| 11951 FREEDO | OM DRIVE SUITE 1260 | | ART UNIT PAPER NUMBER | |
| RESTON, VA | 20190 | | 2816 | - |
| | | | DATE MAILED: 08/19/2005 | 5 |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) | |
|---|---|---|------------------------|
| Office Action Comments | 10/754,501 | LEE ET AL. | an |
| Office Action Summary | Examiner | Art Unit | |
| | Long Nguyen | 2816 | |
| The MAILING DATE of this communication ap riod for Reply | pears on the cover sheet w | vith the correspondence a | ddress |
| A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication. If the period for reply specified above is less than thirty (30) days, a rep- If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statut Any reply received by the Office later than three months after the mailine earned patent term adjustment. See 37 CFR 1.704(b). | | reply be timely filed irty (30) days will be considered tim NTHS from the mailing date of this BANDONED (35 U.S.C. & 133) | ety. communication. |
| atus | | | |
| 1) Responsive to communication(s) filed on 30 J | <u>lune 2005</u> . | | |
| | s action is non-final. | | |
| 3) Since this application is in condition for allows | ance except for formal mat | tters, prosecution as to th | ne merits is |
| closed in accordance with the practice under | Ex parte Quayle, 1935 C.I | D. 11, 453 O.G. 213. | |
| sposition of Claims | | | |
| 4) Claim(s) <u>1,3-7,12 and 13</u> is/are pending in the | e application. | | |
| 4a) Of the above claim(s) is/are withdra | | | |
| 5)⊠ Claim(s) <u>1 and 3-7</u> is/are allowed. | | | |
| 6)⊠ Claim(s) <u>12 and 13</u> is/are rejected. | | | |
| 7) Claim(s) is/are objected to. | | | |
| 8) Claim(s) are subject to restriction and/o | or election requirement. | | |
| plication Papers | | | |
| 9) The specification is objected to by the Examine | er. | | |
| 10)⊠ The drawing(s) filed on <u>30 June 2005</u> is/are: a | | ected to by the Examiner | |
| Applicant may not request that any objection to the | | | |
| Replacement drawing sheet(s) including the correct | ction is required if the drawing | g(s) is objected to. See 37 C | FR 1.121(d). |
| 11) \square The oath or declaration is objected to by the E | xaminer. Note the attache | d Office Action or form P | TO-152. |
| ority under 35 U.S.C. § 119 | | | |
| 12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority document copies of the priority document copies of the certified copies of the priority document copies of the certified copies of the priority document copies of the certified copies of the priority copies of the certified copies of the certified copies of the priority copies of the certified copies of the copies of the certified copies of the c | ts have been received. ts have been received in A prity documents have beer | Application No | I Stage |
| application from the International Burea * See the attached detailed Office action for a list | | tracaivad | |
| See the attached detailed Office action for a list | t of the certified copies not | received. | |
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| chment(s) | | | |
| chment(s) Notice of References Cited (PTO-892) | 4) Tatangan | Summary (PTO 442) | |
| chment(s) Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | Paper No(| Summary (PTO-413) (s)/Mail Date Informal Patent Application (PT | |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 2. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsuda (JP 5-315931).

With respect to claim 12, Figure 1 of the Tsuda reference discloses a level shifter circuit, comprising: a first power (Vcc); a second power (Vdd); an input circuit (2-3); an input signal (T); an output circuit (QP1, Q1-Q4, QN1, 4); and a detection circuit (10, also see Figure 4 and paragraph [0014] of the translation); wherein the output circuit output circuit (QP1, Q1-Q4, QN1, 4) comprises an inverter (4) having an input that is grounded in response to the interruption detected by the detection circuit (because QN1 is ON so inverter 4 having its input connected to ground). Note that for broadest reasonable interpretation, when the power supply voltage VCC rises abnormally then it is considered that the power supply voltage VCC is interrupted since the normal voltage has been interrupted.

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konishi (USP 6,373,285) in view of Weste et al. (Principles of CMOS VLSI Design: A Systems Perspective, Addison-Wesley Publishing Company, 1993, second edition, section 10.5.4, pages 408-411).

With respect to claim 12, Figure 1 of the Konishi reference discloses a level shifter circuit, comprising: a first power (70); a second power (80); an input circuit (1); an input signal (10); an output circuit (2); and a detection circuit (3) for detection an interruption in the supply of the first voltage level by the first power supply node, and it is seen in the operation of the circuitry in Figure 1 of the Konishi reference that the interruption occurs during a power down operation mode (see abstract). Figure 1 of the Konishi reference does not disclose that the output circuit (2) includes an inverter having an input that is grounded in response to the interruption detected by the detection circuit. However, the Weste et al. reference discloses that an output buffer (chain of inverter) is desired to drive large load for reducing the time delay (see section 4.6.3, pages 229-231). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the level shifter circuit in Figure 1 of the Konishi reference by providing an output buffer (chain of inverters) to the output terminal 27 for the purpose of reducing the time delay when driving a large load such as long busses or downstream circuitry. Thus this modification/combination meets all the limitations of claim 13 that the output circuit including an inverter (the inverter of the output buffer coupled to terminal 27) having an input that is grounded in response to the interruption detected by the detection circuit (i.e., when the detection circuit 3 detects an interruption in the first power supply voltage 70, then signal 39 = Hi to turn on transistor 25 so the signal at terminal 27 is grounded, and thus the input of the inverter (of the output buffer) connected to terminal 27 is grounded).

Allowable Subject Matter

5. Claims 1 and 3-7 are presently allowed because applicant incorporates the allowable subject matter of claim 2 into independent claim 1.

Response to Arguments

6. Applicant's arguments filed on 6/30/05 have been fully considered but they are not persuasive.

Applicant argues that the Tsuda reference does not detect an interruption in the supply of the first voltage. However, this argument is not persuasive because the Tsuda reference clearly discloses that the detection circuit (10, Figure 1) detects an abnormal rises of the first power supply voltage, and thus for broadest reasonable interpretation, an interruption in the supply of normal voltage of the first power supply is detected (i.e., the normal operation voltage of the circuitry is interrupted). Thus, circuit 10 in Figure 1 of Tsuda detects an interruption in the first power supply.

Note, for claim 13, the amended changed the scope of the claim, and the argument has been considered but is most in view of the new ground rejection (103 rejection).

Conclusion

- 7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- 8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directly to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 18, 2005

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LONG NGUYEN PRIMARY EXAMINER